Staff Report
for

Item 12
October 31, 2002

To: John H. Robertus
Executive Officer

From: Sabine A. Knedlik
Water Resource Control Engineer
Industrial Compliance Unit

Tentative Order No. R9-2002-0161
NPDES Permit No. CA0109151
WASTE DISCHARGE REQUIREMENTS FOR SOUTHWEST MARINE INC., SAN DIEGO COUNTY

DISCUSSION:

Southwest Marine Inc. (SWM), one of three shipyards located in the San Diego Region, is an existing full service ship modification, repair, and maintenance facility located at the foot of Sampson Street, along Belt Street in San Diego. Industrial activities at SWM generate or have potential to generate pollutants that may be discharged to San Diego Bay. These discharges of pollutants may cause both short and long-term loss of designated beneficial uses of the receiving water. Discharges of primary concern include storm water runoff contaminated with abrasive blast material, paint, oils, fuels, lubricants, solvents, or petroleum. These contaminants are generated from various ship repair and maintenance activities at SWM which include abrasive blasting, hydro blasting, metal grinding, painting, tank cleaning, removal of anti-fouling paint, sheet metal work, electrical work, mechanical repair, engine repair, hull repair, and sewage disposal.

SWM is enrolled in Order No. 97-36, NPDES Permit No. CAG039001, a general permit that covers discharges of ship construction, modification, repair, and maintenance facilities and activities in the San Diego region. Order No. 97-36 expired on October 15, 2002, but the requirements of the general permit will remain in effect until replaced by the adoption of the new individual NPDES permit for SWM. An individual permit written for the SWM facility is appropriate since significant changes to the facility and its operations have been made in the last five years.

On April 15, 2002 SWM submitted a *Report of Waste Discharge* for renewal of its NPDES Permit. Tentative Order No. R9-2002-0161 is an individual permit specifically written for the SWM facility and will, upon adoption, supersede Order 97-36.

SWM occupies approximately 27 acres of land and water. Land portions include production shops, warehouses, and administrative offices. Production shops include an abrasive blasting building and a paint spray booth. SWM also manages a solid waste reclamation and recycling area and a hazardous waste reclamation facility.

On the bay side, the shipyard has five piers and two floating drydocks. The piers are used to berth vessels that are undergoing repair and maintenance operations as well as berthing barges used to house vessel crews while ship repairs are being conducted. The floating drydocks are used to remove a vessel from San Diego Bay to conduct repair and maintenance activities which can not be conducted while the vessel is waterborne. The repair and maintenance activities include exterior hull repair, abrasive blasting, hydro-blasting, painting, repair or replacement of valves and fittings located below the waterline, and shaft, propeller, and rudder repair. Ship launching and recovery is accomplished by sinking and floating the drydock by filling and emptying ballast tanks with seawater.

Point Source Discharges:
Activities at SWM produce industrial waste water discharges as well as discharges that do not come in contact with industrial processes. Tentative Order No. R9-2002-0161 prohibits the discharge of all industrial process water associated with ship modification, repair, and maintenance activities to San Diego Bay. All industrial waste water discharges generated at SWM are diverted to the Metropolitan Sanitary Sewer System. The remaining point source discharges at SWM to San Diego Bay are fire protection water, non-contact cooling water, floating drydock ballast tank water, and miscellaneous low volume water discharges from various sources such as steam condensate.

The pressurized fire protection salt water systems provide required on-board fire protection for U.S. Navy and commercial vessels being serviced at SWM. The discharge to San Diego Bay consists of excess pressure releases from the fire pumps, which can range between 100 to 500 gallons per minute. Non-contact cooling water discharges result from salt water being passed through a heat exchanger to cool compressed air and average 250 gallons per minute. The salt water does not come in contact with the compressed air. The fire protection water and non-contact cooling water as well as the floating drydock ballast water and the miscellaneous low volume water discharges do not ordinarily come in contact with pollutants.

Storm Water Discharges:
SWM operates and maintains a Storm Water Diversion System (SWDS). The SWDS will retain up to one inch of storm water. The retained storm water is stored in tanks and is discharged to the Metropolitan Sanitary Sewer System after a 24 hour holding time. An additional 0.25 inches were authorized by the City of San Diego's Industrial Waste Control Program. Any storm water in excess of 1.25 inches per day will be discharged to San Diego Bay. Tentative Order No. R9-2002-0161 requires the implementation of Best Management Practices (BMPs) for control of pollutants in storm water discharges from SWM. The BMPs will be implemented in conjunction with the SWDS at SWM. The

retained storm water as well as industrial waste water that are discharged to the Metropolitan Sanitary Sewer System are regulated under an Industrial User Discharge Permit issued by the San Diego Metropolitan Wastewater Department.

Order No. 97-36 contained whole effluent toxicity limits (acute toxicity) for storm water discharges. Order No. 97-37 specified that in a 96-hour static or continuous flow bioassay (toxicity) test, undiluted storm water runoff associated with industrial activity which is discharged to San Diego Bay shall not produce less than 90 percent survival, 50 percent of the time, and not less than 70 percent survival, 10 percent of the time, using standard test species.

SWM last discharged storm water to San Diego Bay on October 27, 2000. The storm water discharge occurred at one outfall, Outfall SW4. Acute toxicity data for the discharge from Outfall SW4 for the 2000-2001 wet season had a species survival rate of ten percent. It is evident from this monitoring data as well as historical monitoring data that SWM has the potential to discharge storm water to San Diego Bay that may contribute to an exceedance above the toxicity objective stated in the Basin Plan. Tentative Order No. R9-2002-0161 incorporates the same whole effluent toxicity requirements that were specified in Order No. 97-36.

On September 11, 2002 the Regional Board adopted an NPDES permit (Order No. R9-2002-0002) for the U.S. Naval Base at Point Loma (NBPL), in San Diego. Order No. R9-2002-0002 directed the U.S. Navy to conduct a 4-year study of the toxicity in storm water discharges. The study would recommend an appropriate survival rate for acute exposure to discharges of storm water from industrial areas. SWM has been encouraged to participate in this study.

Sediment Monitoring:
The northwest side of SWM is located in an area listed in the 303(d) list of impaired water bodies as being impaired for benthic community effects and sediment toxicity. Elevated levels of metals, such as copper and zinc, in the San Diego Bay bottom sediment adjacent to SWM caused the Regional Board to issue Resolution No. 2001-03. The Resolution, adopted in February 2001, directed the Executive Officer to issue a Water Code 13267 letter to SWM requiring SWM to submit a site-specific study to develop sediment cleanup levels and identify sediment cleanup alternatives. SWM is currently conducting Phase 2 of the approved sampling plan to develop sediment cleanup levels. The cleanup is expected to start in spring of 2003.

Order No. 97-36 established a sediment monitoring program for SWM requiring the facility to collect surficial sediment samples at 16 stations in the segment of San Diego Bay along the shipyard's waterfront. The sediment monitoring program is continued in tentative Order No. R9-2002-0161, but will not be required until the sediment cleanup at SWM is successfully completed. Tentative Order No. R9-2002-0161 requires the first set of sediment samples from SWMs sampling stations and reference stations to be taken concurrently with the last post cleanup sampling.

In addition to the whole effluent toxicity limitations, BMP requirements, and sediment monitoring requirements, tentative Order No. R9-2002-0161 incorporates other narrative and numeric waste discharge requirements as required by federal and state regulations. These regulations include: the SWRCB Policy for *Implementation of Toxic Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California (*Implementation Policy*)*, the *California Toxic Rule* (40 CFR 131), the *Bay and Estuaries Policy*, the *California Ocean Plan*, and the *Thermal Plan*.

Availability of tentative Order No. R9-2002-0020:
The tentative Order was mailed on October 3, 2002; 41 days prior to the November 13, 2002 board meeting.

Comment letters:
Comment letters from SWM and the Environmental Health Coalition were received on October 31, 2002 (see Attachment 8). Staff will be preparing a *Response to Comments* document to address these comments and any other written comments received by the cutoff date of November 6, 2002.

SIGNIFICANT CHANGES FROM ORDER NO. 97-36:

Tentative Order No. R9-2002-0161 contains the following significant changes:

1. Tentative Order No. R9-2002-0161 is specifically written for the SWM facility and reflects the operational, structural, and discharge conditions unique to SWM.

2. Order No. 97-36 included specific requirements for discharges resulting from the use of graving docks and shipbuilding ways. Since there are no graving docks and shipbuilding ways at SWM these discharges do not occur and have not been included in tentative Order No. R9-2002-0161.

3. SWM developed a Storm Water Diversion System (SWDS) to eliminate and/or reduce the concentration of pollutants discharged to the receiving waters (San Diego Bay). The SWDS was implemented in response to *Discharge Specification B.11.a.i* of Order No. 97-36 which required SWM to terminate the discharge of the first flush of storm water runoff from high risk areas by September 17, 2000. The benefits of the SWDS were considered during the development of discharge limits, provisions, and monitoring requirements for industrial storm water in tentative Order No. R9-2002-0161.

4. Tentative Order No. R9-2002-0161 incorporates the provisions of the CTR and the Implementation Policy. The CTR and Implementation Policy were promulgated in 2000 and were not included in Order No. 97-36. Point source discharges from SWM, such as fire protection water, non-contact cooling water, and miscellaneous low

volume discharges, are subject to the California Toxic Rule (CTR) and the Implementation Policy requirements. Storm water discharges are exempt from Implementation Policy requirements.

Copper is the only priority pollutant that exceeded the CTR established water quality criteria in the effluent as well as in the receiving water. Tentative Order No. R9-2002-0161 requires SWM to monitor fire protection water, non-contact cooling water, and miscellaneous low volume discharges as well as the receiving water for copper on a monthly basis. The increase in effluent monitoring for copper (semi-annually and annually increased to monthly) and the addition of receiving water monitoring is necessary to gather adequate statistical data to perform a Reasonable Potential Analysis, pursuant to the Implementation Policy, and to possibly incorporate a copper effluent limit at a later date.